

## Protecting High-Producing Sows: Managing Shoulder Ulcers with Effective Wound Care

### Introduction

Shoulder ulcers in lactating sows represent one of the most visible welfare challenges on commercial swine farms. These pressure sores emerge during peak lactation when metabolic stress, prolonged recumbency, and constant pressure over bony prominences create conditions for rapid skin breakdown. Once established, shoulder lesions enlarge unpredictably, can become deeply infected, drive premature culling, and compromise both animal welfare and herd longevity.

Traditional management has focused on flooring, nutrition, and management to reduce recumbency and increase freedom of movement—all essential, but often insufficient once ulcers have begun. **This article explores a non-antibiotic complement to these foundational practices: a topical protective spray shield designed to arrest infection, seal wounds, and slow ulcer progression while animals recover through lactation.**

An on-farm trial in a high-producing European operation evaluated this approach and found that daily application of a flexible film bandage significantly slowed shoulder ulcer growth, reduced lesion variability, and prevented deep cavitation—all without systemic antibiotic escalation.

### Why Shoulder Ulcers Matter

Shoulder ulcers affect sow welfare, economics, and farm antibiotic use in three ways:

1. **Welfare and pain:** Deep, infected shoulder sores cause chronic pain and reduce feed intake, perpetuating the metabolic stress that created them in the first place.
2. **Culling and longevity:** Sows with severe shoulder lesions are at higher risk of premature removal, reducing herd lifespan and increasing breeding costs.
3. **Antibiotic pressure:** Once shoulder ulcers become secondarily infected, farms often resort to systemic antibiotics, adding to overall farm antibiotic exposure.
4. **Carcass trim and cut-out losses:** Deep or infected shoulder ulcers often require aggressive trimming at the plant, reducing carcass yield and generating direct economic losses for processors and the supply chain.



**This article explores a non-antibiotic complement to these foundational practices: a topical protective spray shield designed to arrest infection, seal wounds, and slow ulcer progression while animals recover through lactation.**

### **The Dual Challenge: Reducing Recumbency and Controlling Infection**

Shoulder ulcers are driven by two interacting forces: mechanical pressure and bacterial infection at damaged skin sites. Farms have made progress on the mechanical side—improving flooring, body condition, and management—but infection control at the wound surface often remains under-addressed. Understanding how these two drivers interact helps explain where a topical shield fits into the overall strategy.

### **Standard Management: Necessary but Often Insufficient**

Modern sow management addresses shoulder ulcers through improved flooring, increased frequency of posture changes, and enhanced nutrition to shorten lactation duration and support body condition. These interventions reduce incidence of new ulcers but often cannot reverse ulcers already in progress.

### **The Infection Component Often Overlooked**

Once skin integrity is broken, environmental bacteria—particularly *Staphylococcus* species—colonize the lesion. If unchecked, these pathogens drive progression from a surface wound to a deep, infected cavity that is far more difficult to manage. **A topical intervention that arrests bacterial colonization at the moment ulcers emerge could interrupt this cascade and keep lesions manageable during lactation.**

### **How Oinkment Works: Two Functions**

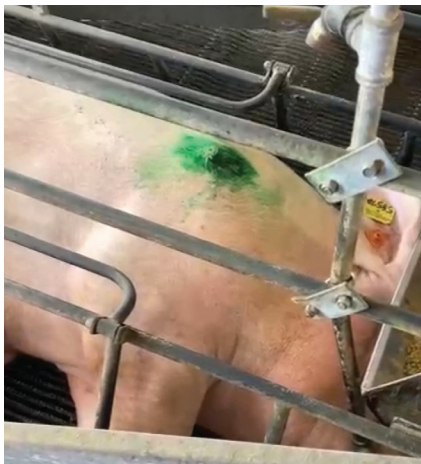
Oinkment spray is a quick-drying, flexible film bandage containing food-approved antimicrobial components (GRAS listed) designed to:

1. **Arrest infection:** Non-antibiotic antimicrobial agents in the film eliminate pathogenic bacteria on the wound surface within hours, reducing bacterial load before it can establish deeper infection.
2. **Seal and protect:** The flexible film creates a moist, protected wound environment while blocking environmental pathogens (bedding bacteria, fecal contamination) from recolonizing the lesion.

Unlike rigid bandages, the flexible film accommodates tissue swelling and sow movement, reducing secondary trauma during nursing and position changes. The spray dries quickly, minimizing handling time, and can be easily reapplied as needed.



### **On-Farm Trial: Sow Shoulder Ulcers in a High-Producing Herd with a History of Lesions**



#### **Study Design**

**Population:** A 1,000-sow multiplier farm (TN70 sows, TN Tempo boars) in the Netherlands selected 14 lactating sows with visible shoulder lesions at 1–14 days postfarrowing.

**Treatment allocation:** Seven sows randomly assigned to daily Oinkment spray application; seven served as untreated controls. Wounds were tracked on days 1, 2, 3, 7, 10, and 14.

**Measurements:** Lesion severity was scored on a 0–3 scale (red skin only to deep cavitation), and lesion area was quantified by tracing contours onto transparent sheets and converting weight to surface area (cm<sup>2</sup>).

**Unlike rigid bandages, the flexible film accommodates tissue swelling and sow movement, reducing secondary trauma during nursing and position changes**

### Key Results: Slowed Progression, Prevented Deep Lesions

**Initial lesions were advanced:** Ulcers averaged 5.24 cm<sup>2</sup> at enrollment, meaning farms were already dealing with established damage, not early intervention.

### Control sows experienced dramatic ulcer increase:

- Lesions began at 5.99 cm<sup>2</sup> and grew through day 14, with an average increase of 273%
- Variation between sows was high (some lesions grew much faster than others)
- Elevated wound severity, control sows average wound score 2.79 throughout the study

### Oinkment-treated sows showed slower, more uniform progression:

- Lesions started at 4.48 cm<sup>2</sup> and by day 14 had grown less than controls, average increase 168%
- Lesion growth was more consistent between animals (standard deviation of 87% vs. 222% in controls)
- Reduced wound score vs. control, average 2.63 throughout the study

### Clinical Significance

The reduced severity and size of wounds in treated sows is the most important finding. A milder surface ulcer can remain manageable during lactation and heal after weaning; a deep, infected cavity often requires extended antibiotic treatment or culling. **By keeping lesions shallow and manageable, Oinkment reduced the need for systemic intervention.**

### Practical Application: Daily Protocol During Lactation

1. **Identify affected sows early** (days 2–5 of visible lesion appearance) to begin treatment before ulcers advance.
2. **Train staff on consistent application** to ensure uniform treatment across the herd.
3. **Combine with standard management:** Flooring, nutrition, and position changes remain essential—Oinkment complements, not replaces, these foundational practices.
4. **Expected outcomes:** Slower ulcer enlargement, reduced variance between animals, fewer deep lesions requiring systemic antibiotic or culling.

### Alignment with Antibiotic Stewardship

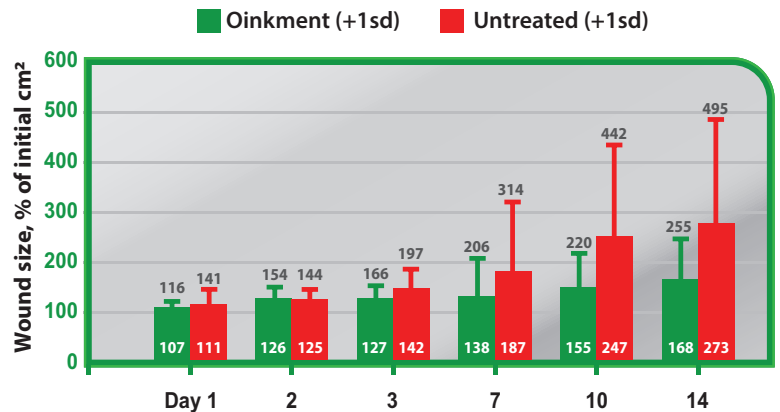
Because Oinkment works without antibiotics, it fits naturally into farm programs committed to reducing systemic antimicrobial use. **The mechanism is local, physical barrier plus food-approved antimicrobial compounds**—no contribution to antibiotic resistance, no pharmaceutical residues, no risk to food safety.

For packers and retailers pushing for reduced antibiotic use in pork production, a farm using Oinkment for shoulder ulcer management can document that decision as evidence of responsible stewardship: treating local infections with local, non-antibiotic tools rather than systemic drugs.

### Conclusion

Shoulder ulcers in high-producing sows will persist as long as metabolic stress and recumbency define lactation. However, **early, consistent topical barrier protection can slow ulcer progression, prevent deep cavitation, and reduce the probability that lesions drive antibiotic escalation or premature culling.** On-farm evidence supports adding non-antibiotic Oinkment spray to the toolkit of sow welfare management, alongside improved flooring, nutrition, and lactation management.

## Relative Wound Size Change



Shoulder wound size change (%) from initial area of sows treated daily with Oinkment or untreated for 14 days. Values are average and average +1sd, n=9 per treatment.

Initial wounds were advanced, averaging 5.24 cm<sup>2</sup> at the outset.

